

PATENT COOPERATION TREATY

PCT

22 SEP 2004

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PCT - 03 - 01	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT / CA 03 / 00380	International filing date (day/month/year) 18/03/2003	(Earliest) Priority Date (day/month/year) 26/03/2002

Applicant

WELICHEM BIOTECH INC.

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2.

Certain claims were found unsearchable (See Box I).

3.

Unity of invention is lacking (see Box II).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

DITHIOLOPYRROLONE DERIVATIVES USEFUL IN THE TREATMENT OF PROLIFERATIVE ISEASES

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

as suggested by the applicant.

because the applicant failed to suggest a figure.

because this figure better characterizes the invention.

None of the figures.

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International Application No

PCT/A 03/00380

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C07D495/04 A61K31/407 A61P35/00 C07D519/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, EMBASE, BEILSTEIN Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 12543 A (CHEN GENHUI ;LI JIANXIONG (CA); WEBSTER JOHN MALCOLM (CA)) 18 March 1999 (1999-03-18) cited in the application Claims 1, 3-4, 10, 13, 16; compounds XN0, XN1, XN3;Table on p. 12 Figure 1 -----	1-7
X	CELMER, WALTER D. ET AL: "A common hydrolysis product of thiolutin and aureothrinicin" ANTIBIOTICS ANN. 1953-54, PROC. SYMPOSIUM ANTIBIOTICS (WASH., D.C.), 1953, pages 622-625, XP009011765 Compounds (X) and (XI); p. 623, 1. 9-15 ----- -/-	1-7

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

18 June 2003

Date of mailing of the international search report

24 11. 2003

Name and mailing address of the ISA

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Rivat. C.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 173 499 A (ICI PLC) 15 October 1986 (1986-10-15) Claims 1, 4-6; formula (I); Table I, compounds 4-5, 12, 16, 22; example 1 -----	1,6
X	PATENT ABSTRACTS OF JAPAN vol. 012, no. 358 (C-531), 26 September 1988 (1988-09-26) & JP 63 112586 A (NIPPON KAYAKU CO LTD), 17 May 1988 (1988-05-17) Formula (VI) abstract -----	1,6
X	WO 94 28001 A (SMITHKLINE BEECHAM PLC ;BAGGLEY KEITH HOWARD (GB); BROOM NIGEL JO) 8 December 1994 (1994-12-08) Claims 1-2; formula (I) -----	1,6
P,X	LAMARI L. ET AL.: "New Dithiopyrrolone Antibiotics from Saccharothrix sp. SA 233. I. Taxonomy, Fermentation, Isolation and Biological Activities" J. ANTIBIOTICS, vol. 55, no. 8, 2002, pages 696-701, XP009011640 Compounds 1 and 2 -----	1,6

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International application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-7 (all in part)

Remark on Protest

The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7 (all in part)

Dithiopyrrolone derivatives substituted in 6-position by an (unsaturated hydrocarbon)carbonyl-amine and their use as antiproliferative agents

2. claims: 1-7 (all in part)

6-Amido-dithiopyrrolone derivatives substituted in 4-position by a cyclic moiety and their use as antiproliferative agents

3. claims: 8-10

6-Dimethylaminodithiopyrrolone derivatives and their use as antiproliferative agents

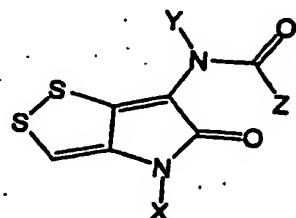
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Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

The present invention provides novel dithiopyrrolone compounds of formula



and their salts, which are useful as treatment for ~~cancer~~ and other proliferative diseases. The present invention also provides therapeutic compositions comprising particularly useful types of dithiopyrrolones, the salts thereof, and methods of using the compounds within such types, particularly in treating proliferative diseases such as cancer.

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Information on patent family members

International Application No

CA 03/00380

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
WO 9912543	A 18-03-1999	CA	2212237 A1	05-03-1999
		AU	759990 B2	01-05-2003
		AU	9057098 A	29-03-1999
		WO	9912543 A1	18-03-1999
		CN	1360891 A	31-07-2002
		CN	1276723 T	13-12-2000
		EP	1009401 A1	21-06-2000
		JP	2001515861 T	25-09-2001

GB 2173499	A 15-10-1986	AU	5245986 A	07-08-1986
		DE	3602148 A1	07-08-1986
		FR	2590573 A1	29-05-1987
		JP	61183290 A	15-08-1986
		ZA	8600175 A	29-10-1986

JP 63112586	A 17-05-1988		NONE	

WO 9428001	A 08-12-1994	AU	6928294 A	20-12-1994
		WO	9428001 A1	08-12-1994
		EP	0699203 A1	06-03-1996
		JP	8510265 T	29-10-1996
		ZA	9403452 A	16-05-1995